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Child Well-being in the Pacific Rim

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Abstract This study extends previous efforts to compare the well-being of children using multi-dimensional indicators derived from sample survey and administrative series to thirteen countries in the Pacific Rim. The framework for the analysis of child well-being is to organise 46 indicators into 21 components and organise the components into 6 domains: material situation, health, education, subjective well-being, living environment, as well as risk and safety. Overall, Japan, Singapore and Taiwan have the highest child well-being and Thailand, Indonesia and the Philippines the lowest. However, there are substantial variations between the domains. Japan and Korea perform best on the material well-being of children and also do well on health and education but they have the lowest subjective well-being among their children by some margin. There is a relationship between child well-being and GDP per capita but children in China have higher well-being than you would expect given their GDP and children in Australia have lower well-being. The analysis is constrained by missing data particularly that the Health Behaviour of School-Aged Children Survey is not undertaken in any of these countries.

Keywords Child well-being • Pacific Rim • Far-East • multi-dimensional index

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1. Introduction

It has to be recognised at the outset that the countries[3] included in this comparison are not particularly alike in terms of the size and structure of their populations and the level of their economic development. In terms of the latter, all these countries enjoyed substantial economic progress with an impressive gradual annual GDP per capita growth in the last few decades. However, Australia, Japan, New Zealand and the Asian newly industrialized economies, Singapore, Hong Kong and Korea, have the highest global Human Development Index (HDI) rankings. Malaysia, Thailand, China, The Philippines, Indonesia and Vietnam's human development with the rankings range from 66th to 116th in 2007 are categorized into high and medium human development. The Gini index reflects that there are widening gaps between the rich and the poor. The situations in Singapore, Hong Kong, Thailand, China, the Philippines call for concern. Regarding demographic trends, over two-third of population in these countries lived in urban areas in 2010, except Vietnam (29%), Thailand (34%), China (45%) and Indonesia (54%). The Philippines (54.%), Malaysia (44%), Indonesia (40%) and Vietnam (37%) have much higher child dependency ratio in 2010, than the three Asian Tigers of Hong Kong (15%), Singapore (21), Korea, and China (28%) (World Bank 2009).

Despite these differences it is worth comparing the well-being of children in the region. As the UNICEF Innocenti Report Card 7 on child well-being argued that 'the true measure of a nation's standing is how well it attends its children – their health and safety, their material security, their education and socialisation and their sense of being loved, valued and included in the families and societies into which they are born' (UNICEF 2007). The UNICEF Innocenti Report Card 7, which covered the OECD countries and from the Pacific Rim countries included only Australia, New Zealand and Japan, was one of a series of comparative analyses of child well-being. The approach of specifying domains of well-being within which indicators can be grouped and composed into domain indices and then into overall composite indices of well-being was first introduced by Land et al. (2001 and 2007). Researchers adopted and applied this approach for comparative studies of child well-being in different regions. The first was a comparison of child well-being in the European Union (EU) 25 countries (Bradshaw, Hoelscher and Richardson 2007). Richardson, Hoelscher and Bradshaw (2008) did a comparison of child well-being in the Central and Eastern European Countries and the Commonwealth of Independent States (CEE/CIS) countries. This was followed by a revision of the EU index this time covering 27 countries (Bradshaw and Richardson 2009). The OECD (2009) has also published an index, including Australia, Korea, New Zealand and Japan.

This study is the first attempt to construct a multidimensional comparative index of child well-being in the Pacific Rim countries including Australia, China, Hong Kong, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, Republic of Korea, Taiwan, Thailand and Vietnam. The article describes how child well-being is conceptualised in the next section. It then discusses how the indices are constructed in the data and methods section. It further examines the results domain by domain and a summary index. Finally, there is a discussion of the results, and the strengths and weaknesses of the comparisons that have been made.

[3] It is acknowledged that Hong Kong is part of China. Hong Kong is formally part of China since the handover of the sovereignty in 1997.

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2. Conceptualisation of child well-being

Our conceptualisation of child well-being follows that developed in relation to the other indices. Following Bronfenbrenner's (1979) ecological view of a child, well-being is understood as multidimensional. The dimensions include poverty and deprivation or material well-being, child health, educational attainment and participation, children's relationships with their friends and family, their feelings about their own well-being, their involvement with risky behaviour. In the first EU index (Bradshaw, Hoelscher and Richardson 2007), an indicator of civic participation is included but that has not been possible with subsequent comparisons.

Inclusion of the domains and components has had in regard to the UN Charter on the Rights of a Child. While the Charter is not always very specific, it provides a framework or checklist of the elements of child's rights which should be included. It covers child survival and development rights, and child protection and participation rights. It specifically enjoins us 'the primary consideration in all actions concerning children must be in their best interest *and their views must be taken into account*'. Thus what children say about their lives – what they think and feel is important. The incorporation of subjective well-being indicators not only reflects children's feelings but also shows respects them as persons (Ben-Arieh 2009; Currie et al. 2008; Lippman 2007). We have therefore sought to include indicators based on the responses of children to questions about their health, education, relationships and life satisfaction. The OECD (2009) in their recent index excluded these components except well-being at school and experiences of bullying - on the grounds that they are not 'policy amenable'. In our view they are mistaken about the extent to which indicators of subjective well-being are policy amenable. Although subjective well-being may be difficult to measure (Grasso and Canova, 2008), it has its own merits as a domain of well-being. Indeed some may argue that it is the essence of well-being to which all the other domains are merely contributors. These arguments will go on, but in this article we have sought to include indicators of subjective well-being and personal relationships, even though we shall see the main source for these indicators leaves something to be desired.

Following modern approaches to child indicator development (Ben-Arieh 2006 and 2009) we go beyond survival to encompass child development and participation; we go wider than the traditional well becoming domains of health and education which are indicators of how well children might do as adults and we seek to include indicators of current well-being – how childhood is experienced. Thus we seek to value childhood as a life stage with its own value - following the new sociology of childhood. We also avoid being preoccupied with the negative or bad aspects of a childhood by also choosing indicators of the positive. As far as possible we use the child as the unit of analysis rather than the family or the parents. We also try to use direct rather than indirect measures of well-being as far as possible. The indicators selected are the most up-to-date that are available.

3. Data and methods

The research began with a search for comparative indicators. The search encompassed two main types of data. First we looked for sample surveys covering children in this region. We were immediately stymied by the fact that one of the main surveys of children, much used to derive indicators in our previous comparative studies was not available for the countries in this region. The HBSC latest sweep in 2005/6 did not include any countries in this region (a fact which incidentally led to a lack of indicators in the UNICEF (2007) and OECD (2009) indices for Australia, Japan, Korea and New Zealand). In addition, the World Health Organization (WHO) and Centres for Disease Control

Prevention's Global School-based Student Health Survey (GSHS) (2005) only covered Indonesia, Thailand, China and the Philippines in this region. But these two sample surveys cover detailed questions of 'family and peer relationships', 'peers and family relationships', and 'school environment', as well as 'health and risk behaviours'. The indicators are related to children's health and socioeconomic factors affecting their development and well-being. In addition, there is no comparable data on 'subjective poverty', 'living conditions' (such as overcrowding and physical environment problems), and 'self-defined health' in the Pacific Rim. The analysis has eventually been data driven and indicators of subjective well-being are only part of a set of indicators. In addition, we shall see the index as a whole is heavily reliant on the UNICEF Speaking Out Survey. There is a disconnection between the ideals and the reality because of gaps in the data availability.

The indicators are mainly drawn from the following sample surveys:

- Progress in International Reading Literacy Study (PIRLS) 2006;
- The OECD Programme for International Student Assessment (PISA) 2006;
- Trends in International Mathematics and Science Study (TIMSS 2003);
- UNESCO Institute for Statistics 2006;
- UNICEF, Multiple Indicators Cluster Survey (MICS) 2006; and
- UNICEF, Speaking Out Survey, 2001

The other main source of survey data used in previous comparisons is the OECD Programme for International Student Assessment (PISA). The 2006 PISA survey covered Australia, Hong Kong, Indonesia, Japan, Korea, New Zealand, Thailand and Taiwan.

The other main source of indicators was administrative data. We drew on the following sources:

- World Bank, Health, Nutrition and Population (HNP) at A Glance 2006;
- World Bank, World Development Indicators (WDI) 2006;
- WHO, Mortality Database 2008;
- WHO, Oral Health Country, Decayed, Missing and Filled Teeth (DMFT) 2005;
- WHO, World Health Statistics; and
- UNICEF, The State of the World's Children (SWOC) 2008

There was missing or out of date data for some countries in many of these sources. We were in general very reluctant to fill data gaps by obtaining data directly from national sources as it risks including data which is not comparable. However, we did obtain infant mortality and low birth weight data for Hong Kong and Taiwan from national sources on the grounds that these data appeared to be comparable.

Table 1 presents the full list of indicators, their sources and the missing countries and summarises how they were organised into components and domains. This is the first attempt to do a comparative study of child well-being in the Pacific Rim but the study also shares the constraints encountered by the other similar studies. In particular, the study is largely a picture of children in their early years and in their teenage years with the middle period of childhood underrepresented. Besides, this is an average picture without any data on dispersion within countries by race, ethnicity and gender.

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Table 1 Child well-being indicators, components and domains

	Indicator description	Source(s)	Missing countries
Material situation			
Income poverty	Percentage of income received by the 40% of households with the lowest income	UNICEF, SWOC 2008	Hong Kong, Taiwan
Deprivation	Percentage of children with three or fewer educational possessions (aged 13 to15)	TIMSS 2003	China, Thailand, Vietnam
	Percentage of children have 10 books or fewer in the home (aged 13 to15)	TIMSS 2003	China, Vietnam
	Parents' reports that they have 10 children's books or fewer in the home (aged 13 to15)	PIRLS 2006	Australia, China, Japan, Korea, Malaysia, Philippines, Thailand, Vietnam
Health			
Health at birth	Infant mortality rate (per 1,000 live births)	UNICEF, MICS 2006; Centre for Health Protection, Hong Kong 2006; Department of Health, Taiwan 2006	
	Share of low weight births (births under 2,500 grams as per cent of total live births)	UNICEF, MICS 2006; Bureau of Health Promotion, Taiwan 2006	
Breastfeeding	Percentage of infants exclusively breastfed at 6 months of age	UNICEF, MICS 2006	Australia, Hong Kong, Japan, Korea, New Zealand, Singapore, Taiwan
	Percentage of children still breastfed at 20-23 months	UNICEF, MICS 2006	Australia, Hong Kong, Japan, Korea, New Zealand, Singapore, Taiwan
Immunisation	DPT3: % of 1-year-old children immunized	UNICEF, MICS 2006	Hong Kong, Taiwan
	Polio: % of 1-year-old children immunized	UNICEF, MICS 2006	Hong Kong, Taiwan
	Measles: % of 1-year-old children immunized	UNICEF, MICS 2006	Hong Kong, Taiwan

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Table 1 (Continued)

	Indicator description	Source(s)	Missing countries
Nutrition	Prevalence of child malnutrition (moderate and severe), stunting (% of children under 5)	WHO, World Health Statistics 2008	Australia, Hong Kong, Japan, Korea, Malaysia, New Zealand, Taiwan
	Prevalence of child malnutrition (moderate and severe), underweight (% of children under 5)	WHO, World Health Statistics 2008	Australia, Hong Kong, Japan, Korea, Malaysia, New Zealand, Taiwan
	Prevalence of child malnutrition (moderate and severe), wasting (% of children under 5)	World Bank, HNP at a Glance 2006	Australia, Hong Kong, Japan, Korea, Malaysia, New Zealand,, Philippines, Taiwan
	Percentage of household consuming iodised salt	UNICEF, MICS 2006	Australia, China, Hong Kong, Japan, Korea, Malaysia, New Zealand, Singapore, Taiwan
Children's Health	Under 5 mortality rates (per 1,000 live births)	World Bank, WDI 2006	Hong Kong, Taiwan
	Percentage of under 5 with acute respiratory infection and fever taken to a health provider	UNICEF, MICS 2006	Australia, China, Hong Kong, Japan, Korea, Malaysia, New Zealand, Singapore, Taiwan
	Percentage of under 5 with diarrhoea receiving oral rehydration and continued feeding	UNICEF, MICS 2006	Australia, China, Hong Kong, Japan, Korea, Malaysia, New Zealand, Singapore, Taiwan
	Decayed, missing or filled teeth (DMFT) at age 12	WHO Oral Health Country, DMFT 2005	Taiwan
Education			
Educational Participation	Pre-primary enrolments (net rates, per cent of population aged 3-6)	UNESCO Institute for Statistics 2006	China, Singapore, Taiwan

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Table 1 (Continued)

	Indicator description	Source(s)	Missing countries
	Rate of primary school age children out of school	UNESCO Institute for Statistics 2006	China, Japan, New Zealand, Singapore, Taiwan, Thailand
	Secondary school net enrolment ratio (per cent of population of secondary school age)	UNESCO Institute for Statistics 2006	China, Singapore, Taiwan
Educational Achievement	Reading literacy achievement, aged 15	PISA 2006	China, Malaysia, Philippines, Singapore, Vietnam
	Science literacy achievement, aged 13 to 15	TIMSS 2003	China, Vietnam
	Maths literacy achievement, aged 13 to 15	TIMSS 2003	China, Vietnam
Subjective well-being			
Peer relationships	Percentage of children reporting that their peers care about each other (Grade 4 pupils)	PIRLS 2006	Australia, China, Japan, Korea, Malaysia, Philippines, Thailand, Vietnam
	Percentage of children reporting that their peers help each other with their work (Grade 4 pupils)	PIRLS 2006	Australia, China, Japan, Korea, Malaysia, Philippines, Thailand, Vietnam
Well-being at school	Percentage of children reporting that they like being in school a lot (aged 13 to15)	TIMSS 2003	China, Thailand, Vietnam
Personal well-being	Child's perception of their future quality of life in the future in comparison with his/her parents' current life (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Children reporting that they feel happy most of the time (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
Family relationships	Percentage of children reporting that their feelings and opinions in the home are not given enough or any consideration (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Children reporting a very good relationship with my father (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan

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Table 1 (Continued)

	Indicator description	Source(s)	Missing countries
	Children reporting a very good relationship with my mother (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Children reporting when they behave well, their parents reward them (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Children reporting when they behave well, their parents compliment them (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
Living environment			
Environment	Children reporting that the place where they live is rather unsafe or very unsafe to walk around at night time (aged 9 to 17)	UNICEF, Speaking out Survey 2001	Japan, New Zealand, Taiwan
Facilities	Access to improved sanitation facilities	UNICEF, MICS 2006	Hong Kong, Korea, New Zealand, Taiwan
	Access to improved water sources	UNICEF, MICS 2006	Hong Kong, Taiwan
Risk and safety			
Sexual health	Adolescent fertility rate (births per 1,000 women aged 15-19)	World Bank, WDI 2006; Department of Health, Taiwan 2006	
Alcohol and drug use	Child reporting that a friend or acquaintance has a tobacco addiction (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Child reporting that a friend or acquaintance has a alcohol addiction (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Child reporting that a friend or acquaintance uses illegal drugs or inhalants (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
Experience of violence	Child having ever been victim of assault (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Child having ever been victim of fighting (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan
	Child having ever been victim of threats (aged 9 to 17)	UNICEF, Speaking Out Survey 2001	Japan, New Zealand, Taiwan

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Table 1 (Continued)

	Indicator description	Source(s)	Missing countries
Accidents and suicide	All children accidental and non-accidental death under 19 per 100,000[1]	WHO Mortality Database 2008	China, Indonesia, Taiwan, Thailand, Vietnam

Note: [1] Data is derived from the WHO Mortality Database for all kinds of accidental deaths, murder, suicide and deaths with undetermined cause into one indicator. Data is drawn from average of the three most recent available years.

Indicators are combined to form components and components are combined to form domains using the average of z scores. Z scores are a method for converting indicators into a standardised scale that has the advantage of taking account of rank order and as well as dispersion. The mean is zero with a standard deviation of one. In combining indicators and components we have assumed equal weighting throughout on the (admittedly weak) grounds that this is the convention in comparisons of this kind when there are no theoretical reasons to justify any other weighting method. Hagerty and Land's recent study (2007: 455) also argued that 'the equal-weighting strategy is privileged in that it minimizes disagreement among all possible individuals' weights'. The study demonstrates the statistical foundation of the equal weights method. If anyone wishes to redo the analysis with alternative weightings, the raw data can be obtained by emailing the first author.

In order to deal with missing data, we have sought to favour the inclusion of countries. A country is included at the component level if missing data does not exceed two thirds of the indicators for the component.

4. Findings

4.1 Material situation

The children's material well-being is assessed by a relative income poverty measure and deprivation component. The components are composed of the percentage of income received by the 40% of households with the lowest income and three indicators of deprivation of books and educational possessions. Figure 1 presents a summary of this domain. The left hand axis gives the z scores for the two components in the bars and the right hand axis gives the average of the z scores to form the domain score indicated by the line. For example, Japan and Korea are both above average on both the income share and deprivation components. The children's material well-being is best in Japan and Korea respectively. In contrast, the Philippines is below average on both components and comes bottom of the league on the domain score. In between there are countries with a more mixed patterns. Singapore is below average on income poverty but above average on deprivation. Indonesia is above average on income poverty but below average of deprivation. These contrasting results are because income poverty is assessed using a relative indicator (i.e. a measure of income inequality) while deprivation is a more direct measure of living standards. The evidence aligns with the results of the global HDI rankings in 2007. For instance, Singapore has a very high human development but there are widening income disparities between the rich and the poor (World Bank 2009).

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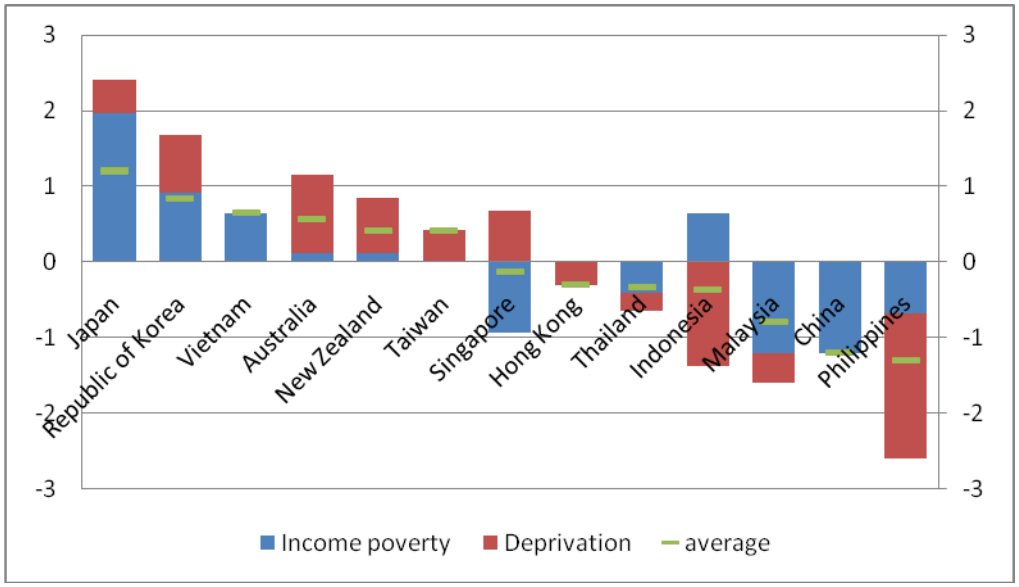
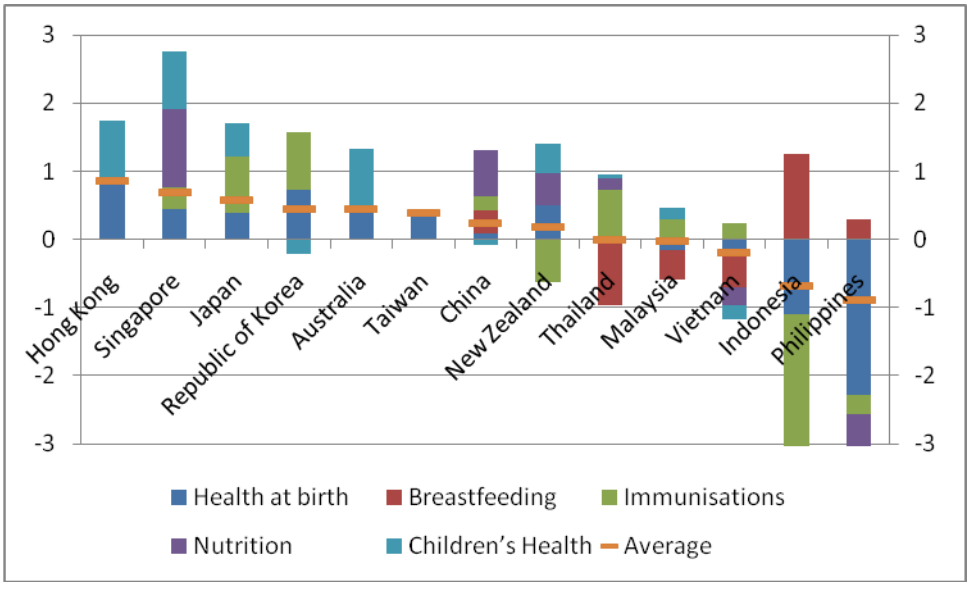
Figure 1 Material situation



4.2 Health

There are five components which contribute to the health domain. Health at birth is a combination of infant mortality and low birth-weights. Breastfeeding is a combination of two indicators. Immunisation take-up is the proportion of children immunised against three infectious diseases. Nutrition is assessed by four indicators. Finally, child health is composed of four indicators. Figure 2 summarises the results for the components with countries ranked according to their overall domain average. Hong Kong (with data for only two components) and Singapore have the best child health. Indonesia and the Philippines are the worst performing countries even though they have above average breastfeeding rates. Thailand and Malaysia are let down by their comparatively low breastfeeding rates and New Zealand by its low immunisation rates.

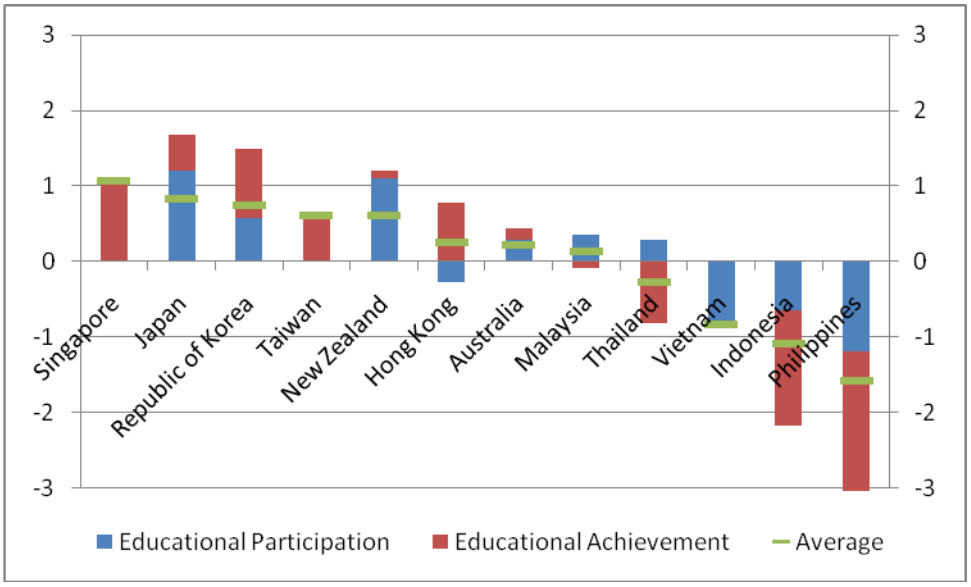
Figure 2 Health



4.3 Education

The Education domain is made up of two components – educational participation and educational achievement reflecting children's development and learning opportunities. Each component is a combination of three indicators. As shown in Figure 3, Singapore (although there is only data on achievement), Japan and Korea do best on the education domain and Indonesia and the Philippines do worst. Hong Kong has above average achievement but below average participation rates. Thailand has the opposite picture with above average participation and below average achievement. There is no data for China for this domain.

Figure 3 Education



4.4 Subjective well-being

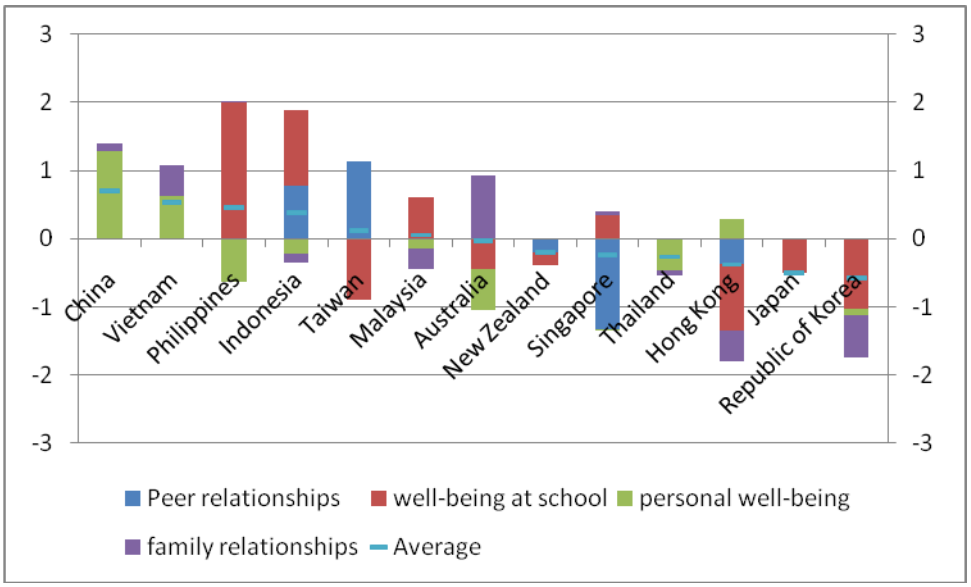
In previous comparisons children's relationships and subjective well-being have been represented in separate domains. In this comparison these two domains are put together, partly because there are a number of countries with missing data and partly because the main sources of data on family relationships and subjective well-being, the UNICEF Speaking Out survey, is now quite old. It was a survey developed by UNICEF's East Asian and Pacific Regional Office of 10,000 children aged 9-17 in 17 countries to mark the Millennium. 'The young people interviewed were a representative sample of the children in each country and territory in terms of age, gender, geographic location (urban or rural) and socio-economic status' (http://www.unicef.org/polls/eapro/index.html). But the samples must have been quite small in each country and the survey was designed more as an opinion poll than a well-being survey.

Subjective well-being includes two indicators from PIRLS on peer relationships, one indicator from TIMSS on well-being at school, two indicators from Speaking Out Survey on personal well-being and five indicators from Speaking Out Survey on family relationships.

As shown in Figure 4, subjective well-being is highest in China, Vietnam, the Philippines and Indonesia. Children in China have the most positive subjective well-being partly because they have optimistic views towards their well-being in the future and partly because they have a very good

relationship with their father and mother. China is still in the context of market transition, and children face challenges and opportunities in the socioeconomic transformations. This may explain why they have optimistic views towards their wellbeing in the future. The lowest subjective well-being is in Hong Kong, Japan and Korea. The position of the latter two countries is not at all surprising. In the UNICEF (2007) index, Japan was a low outlier on subjective well-being. Korea was not included in the UNICEF comparisons but a group of researchers at the Institute of Social Development Studies, Yonsei University (Park et al., forthcoming) have replicated the questions in a survey and found similar results to Japan especially on the responses to the PISA question 'I feel lonely'. In Japan, 29.8 per cent of young people aged 15 agreed with this statement compared with 20.1 per cent in Korea and only 10.1 per cent in Iceland. Korea also had a higher proportion of younger people who said that they felt like an outsider and left out of things and a much lower proportion scoring above the middle of Cantril's Life Satisfaction Scale.

Figure 4 Subjective well-being



4.5 Living environment

The living environment consists of two components, including children's judgement about the safety of their environments from the Speaking Out Survey, and two indicators from MICS on access to improved sanitation and water facilities. For this domain, there is no data for Taiwan.

Figure 5 shows that children in Japan and Singapore enjoy better living environment than children in other countries and Indonesia and Korea have the worst. Children's perception of living environment in Korea is worse than some developing countries, namely Thailand, and China. Korean children are more likely to report that 'the place where they live is rather unsafe or very unsafe to walk around at night time'. Facilities are most likely to be lacking in Indonesia, China and Vietnam.

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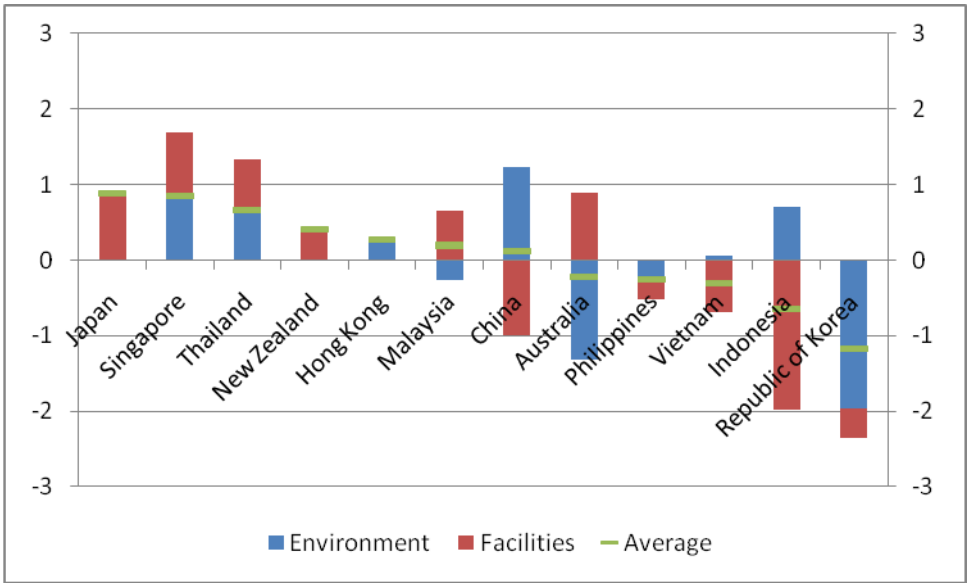
Figure 5 Living environment



4.6 Risk and safety

The risk and safety domain consists of four components: teenage fertility rates as an indicator of sexual health; three indicators from the Speaking Out Survey representing alcohol or drug misuse; three indicators from the Speaking Out Survey representing experience of violence; and the under 19 death rate from suicides and accidents.

The results are presented in Figure 6. Hong Kong, Singapore and China do best on this domain and Thailand, Indonesia and the Philippines do worst. Korea is above average on sexual health but below average on the other domains. In particular, Korean children have higher accidental and non-accidental death rates than the other countries. Australia's position is undermined by experience of violence and drug and alcohol misuse. As shown in Figure 6, adolescent fertility rates are relatively low in Hong Kong, Singapore, China, Taiwan, Japan and Korea, which may be explained by the fact that children livng in these regions, to a certain extent, are influenced by traditional moral and ethical values.

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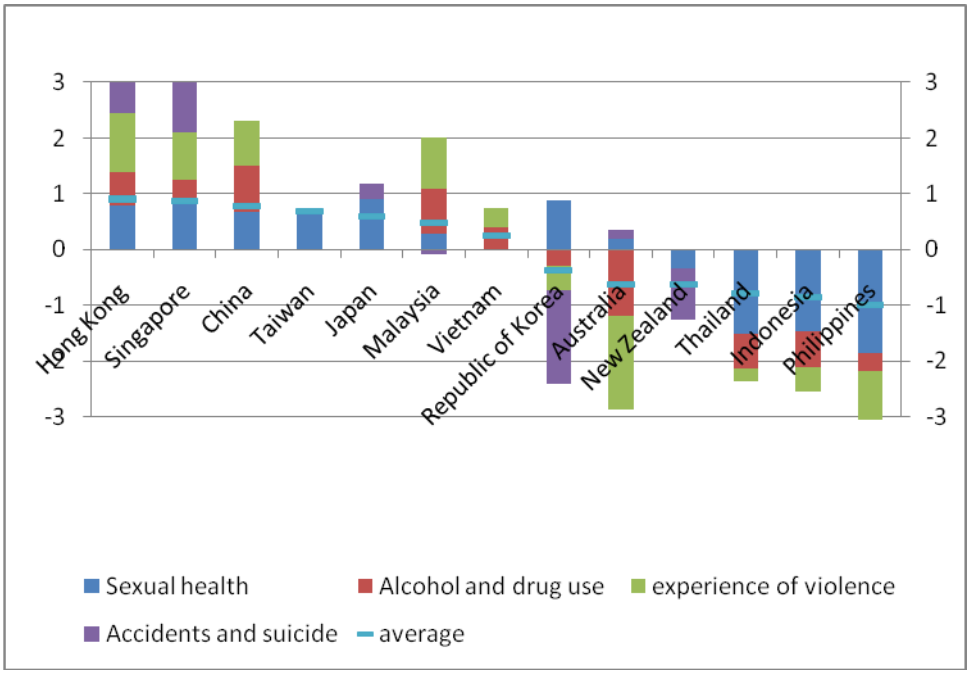
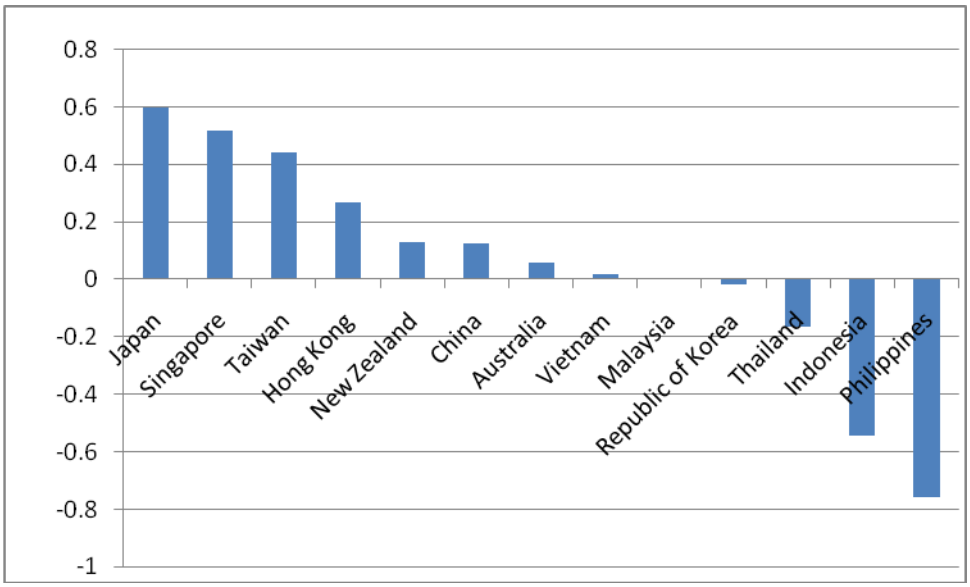
Figure 6 Risk and safety



5. Comparisons of overall child well-being

If we take the z scores for the domains and average them we get the distribution presented in Figure 7. Japan, Singapore and Taiwan have overall the best child well-being in the region and the Philippines and Indonesia the worst child well-being.

Figure 7 Overall child well-being



However, this summary hides the fact that there are substantial variations in the rankings for all six domains. The detailed rankings by domain is summarised in Table 2. China is excluded from the

education domain and Taiwan from the living environment domain. Among the countries Japan performs most consistently and is at the top five for all domains except for subjective well-being. The Philippines and Indonesia are at the bottom five for all domains except subjective well-being. Korea performs well on material situation, health and education, but has a relative ranking on risk and safety, as well as is at the bottom of subjective well-being and living environment.

Table 2 Rankings by domain

Material situation	Health	Education	Subjective well-being	Living environment	Risk and safety
Japan	Hong Kong	Singapore	China	Japan	Hong Kong
Korea	Singapore	Japan	Vietnam	Singapore	Singapore
Vietnam	Japan	Korea	Philippines	Thailand	China
Australia	Korea	Taiwan	Indonesia	New Zealand	Taiwan
New Zealand	Australia	New Zealand	Taiwan	Hong Kong	Japan
Taiwan	Taiwan	Hong Kong	Malaysia	Malaysia	Malaysia
Singapore	China	Australia	Australia	China	Vietnam
Hong Kong	New Zealand	Malaysia	New Zealand	Australia	Korea
Thailand	Thailand	Thailand	Singapore	Philippines	Australia
Indonesia	Malaysia	Vietnam	Thailand	Vietnam	New Zealand
Malaysia	Vietnam	Indonesia	Hong Kong	Indonesia	Thailand
China	Indonesia	Philippines	Japan	Korea	Indonesia
Philippines	Philippines		Korea		Philippines

6. Discussion

The Far-East/Pacific Rim region contains countries at very different levels of development and national wealth. It is expected that those richer countries will have more resources to devote to their children. It is certainly the case that in general richer countries as measured by their GDP per capita in purchasing power parity tend to have higher levels of child well-being and poorer countries have lower child well being (Figure 8). However it can be seen that there are outliers – Australia and Korea have lower child well-being than you might expect given their GDP, and so do Indonesia and the Philippines at the other end of the distribution. Vietnam and China have higher child well-being than you would expect given their GDP. Of the six domains, education (r=0.84) and health (r=0.83) have the strongest association with GDP. Subjective well being has a negative association (r=-0.74) – that is the richer countries tend to have lower subjective well-being. Previous discussion shows that material situation, education and health domains only partially reflect the state of child well-being in

the region. Australia is in the top five for the material situation and health domains but performs relatively poor on the other domains, especially for the living environment, and risk and safety domains).

Figure 8 Child well-being by GDP per capita

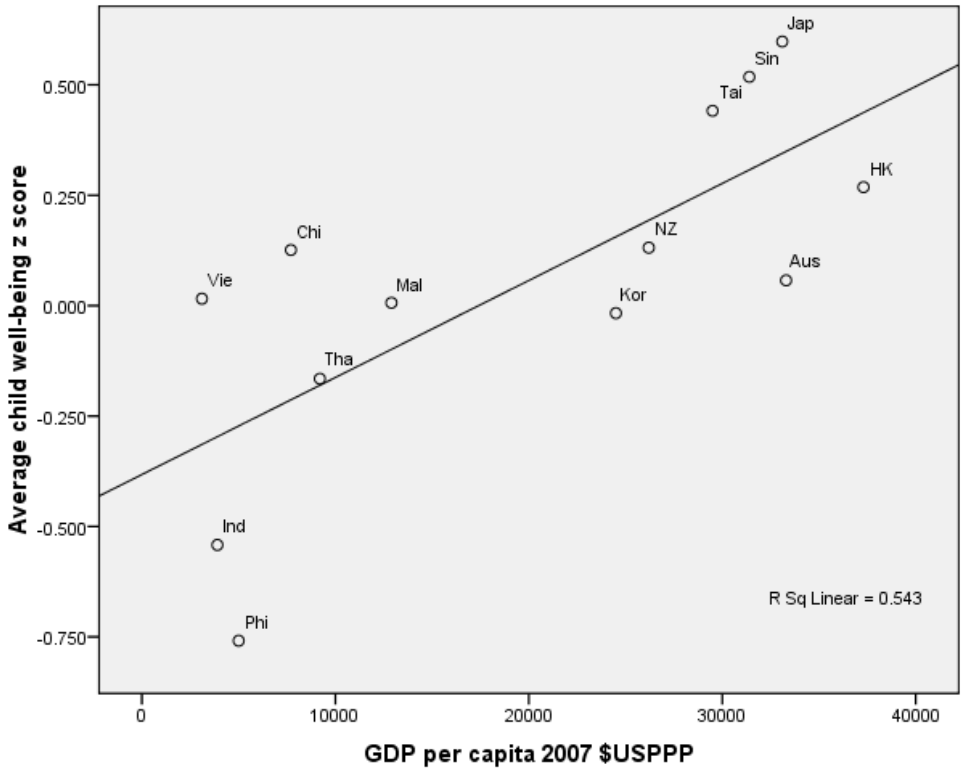


Table 3 presents the correlation between the domains and overall well-being. Material situation and subjective well-being are not associated with overall well-being. Health and Education are the domains most strongly associated with overall well-being.

Table 3 Association between the domains and overall child well-being

Domains	Correlation with overall child well-being
Material situation	0.53
Health	0.83***
Education	0.88***
Subjective well-being	-0.47
Living environment	0.59*
Risk and safety	0.78**

The foregoing discussion indicates the importance of a multidimensional measure of child well-being. In particular, the negative relationship between GDP per capita and subjective well-being confirms that economic growth is only one of crucial elements for the state of child well-being. Those

rich countries with a substantial growth in GDP per capita still need to make further investment in creating an enabling environment for children's future development.

This is the first attempt to compare child well-being in the Pacific Rim region using social indicators. It shares the problems that the other comparisons of this kind suffer from. In particular,

- Not all possible domains of child well-being are represented – in particular there is nothing here on looked-after children.
- This is an average picture without any data on dispersion within countries by ethnicity, gender and so on.
- It is largely a picture of children in their early years and in their teenage years with the middle period of childhood underrepresented.
- The assumption of equal weighting is open to challenge. Summarising indicators by taking the average of z scores tends to give a slight weight to more dispersed indicators.
- The index as a whole is over reliant on data from the UNICEF Speaking Out Survey which is now quite old.
- There is more missing data than we would have liked. In too many cases a country is being assessed on the basis of a single component in some domains.

In the light of these defects it would be a mistake to over interpret the results. However the low levels of the subjective well-being of children in Korea and Japan should be a cause for concern and further investigation – especially as it confirms the findings of earlier comparative studies of child well-being.

In order for future comparisons of child well-being in this region we need better data. The OECD PISA survey in 2009 has included Hong Kong, Indonesia, New Zealand, Thailand, Japan, Korea, Shanghai (in China) and Singapore. It would be very good if a survey along the lines of the Health Behaviour of School-Aged Children Survey could be undertaken in the region.

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